



# ATARI COMPUTER ENTHUSIASTS

A.C.E. (N.S.W.)  
G.P.O. BOX 4514,  
SYDNEY. 2001.  
N.S.W. AUSTRALIA.

## [N.S.W.]

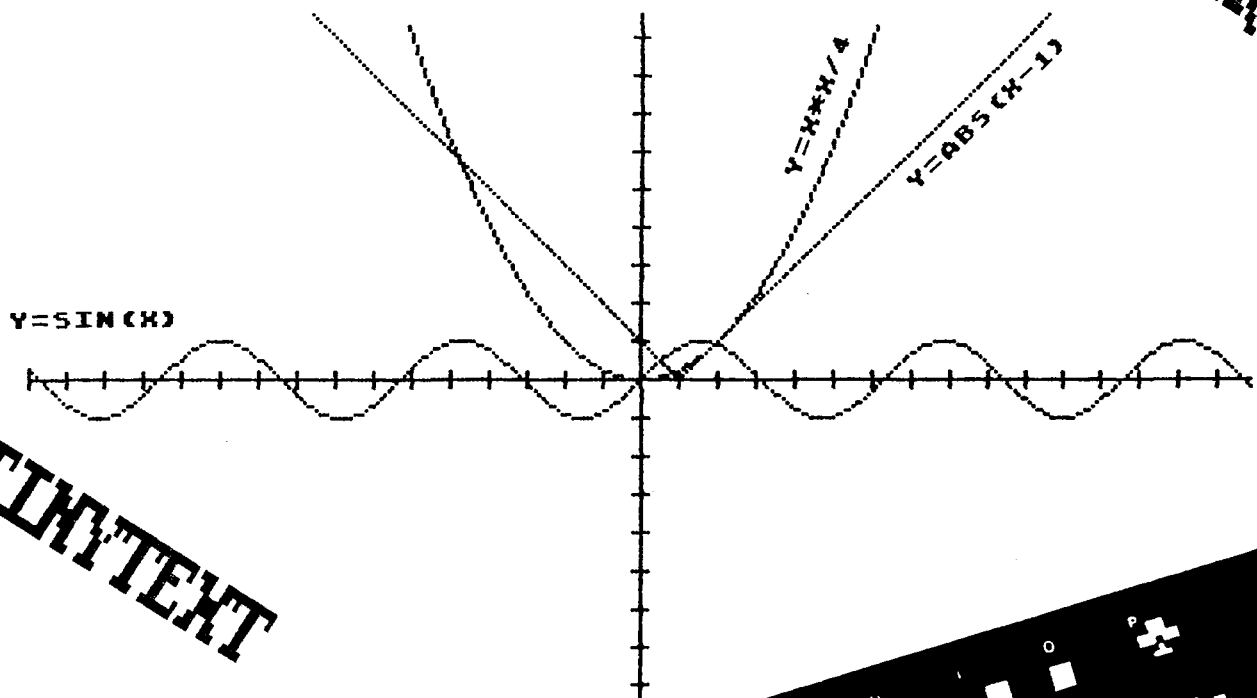
INSIDE INFO

No. 14

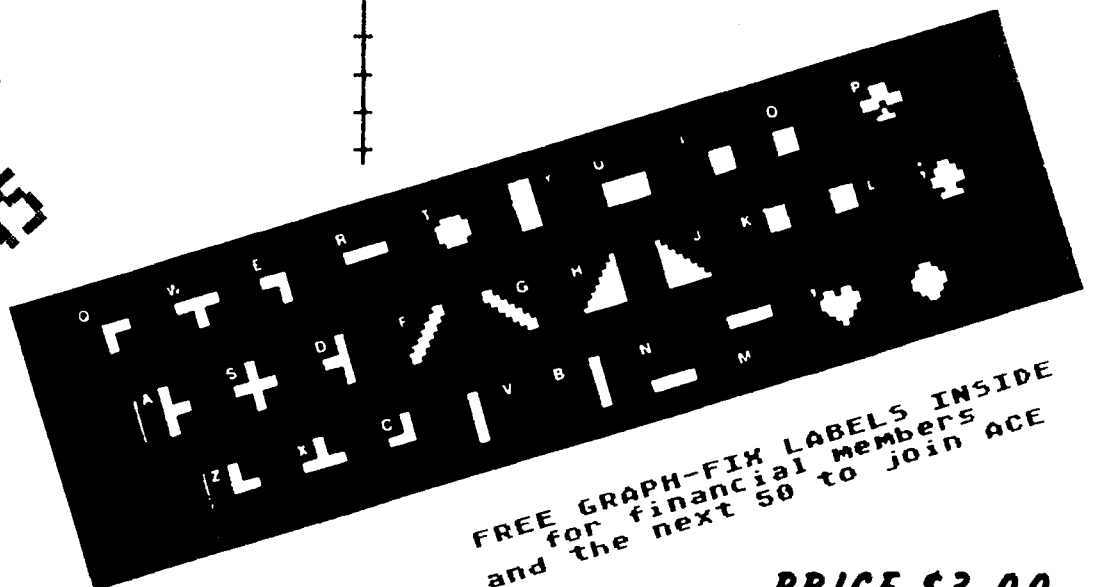
August 1984

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# Atari Computer Enthusiasts (N.S.W.)

## INFORMATION

August 1984

Atari Computer Enthusiasts (N.S.W.) is an independent, non-profit computer users' group loosely affiliated with Atari Computer Enthusiasts in the U.S.A. We have no connections with ATARI, Inc. or their Australian distributors, Futuretronics Australia Pty. Ltd. Our aims include promotion of the various ATARI Home Computer Systems, instructing both beginners and advanced users in programming techniques, exchanging public domain software, hints, tips and ideas amongst members and generally enjoying ourselves. The Club cannot condone software piracy.

### COMMITTEE MEMBERS

#### Home Phone #

Tony Reeve (President)	(02)452 2974
Barry Williams (Vice President)	(02)452 2229
Alex Kwok (Secretary/Treasurer)	(02)661 3377
Peter Bamford (Meetings Organizer)	(043)42 2655
Peter Dickeson (Cassette S/W Xchg)	(02) 80 2505
Brian Simmons (Disk S/W Xchg)	(045)76 5331
Chris Fitzgerald (Editor)	(02)637 5447
Roberto Romano (Bulletin Board)	(02)327 4898
Jeff Maddock (Librarian)	(02)568 2990

Address all mail to the relevant committee position:-

C/- Atari Computer Enthusiasts (N.S.W.)

G.P.O. Box 4514,

Sydney,

N.S.W. 2001.

### MEMBERSHIP FEES

\$30 for the first year and \$15 thereafter (or \$20 and \$10 respectively for students under 18 and still at school). Overseas air-mail subscriptions are \$10(Aust) extra per year. Please write to the Secretary for further details.

### SOFTWARE EXCHANGE

Titles available are:-

\*EDUCATION #1 \*GAMES #1 \*GAMES #2  
\*UTILITIES #1 \*UTILITIES #2 \*fig-FORTH (disk only)  
\*INSIDE INFO Vol. 1 \*XL TRANSLATOR (disk only)  
\*INSIDE INFO Vol. 2 with CARTOONS  
\*INSIDE INFO Vol. 3 (issues 11-14)

DISKS: \$10 each. CASSETTES: \$8 each.

Non-members add 10%. Include an extra \$1.50 to cover surface postage within Australia. Contact appropriate software exchange for further details.

Overseas members should write for costs first.

For every program you write and have accepted by the Software Exchange, you will be entitled to one Software Exchange disk or tape at half price.

We are keen to exchange software with other user's groups.

### BLANK MEDIA

DISKS: \$32 CASSETTES: \$9

Prices are for boxes of 10 and may change without notice. An extra \$1.50 should be included to cover postage within Australia. Contact appropriate Software exchange for details.

### DISK BOXES

These hold 90 disks and have a lockable lid. Cost to members is \$35, non-members \$39.50. Include an extra \$3.35 for postage within N.S.W. and \$5.50 elsewhere within Australia. Contact club Secretary for details.

### SPECIAL INTEREST GROUPS (S.I.G.s)

Home phone numbers of contacts are given below. Phone them or write to the Editor with your suggestions, high scores, reviews, hints or tips.

ADVENTURES: Contact Garry Francis (02)789 1397

ARCADE GAMES: Contact Ken Shiu (02)534 2120

COMPUTE!: Contact Barry Williams (02)452 2229

FORTH: Contact John Mattes (02) 94 5463

HARDWARE: Contact Jamie Athas (02)349 7365

A.C.E. BULLETIN BOARD -Phone(02)327 4898

Systems Operator (SYSOP) is Roberto Romano. System available between 8.30 P.M. and 9.30 P.M. Tuesday to Saturday only. Access requires a personal password which is available from SYSOP for \$3 per year. We recommend you use "AMPLUS3.UDL" terminal software. PUBLIC DOMAIN SOFTWARE ONLY!

### INSIDE INFO

This is our bi-monthly users' group magazine. Articles, etc. should reach the editor at least one month ahead of the release date. Authors of articles printed in INSIDE INFO are entitled to one disk or cassette from the Software Exchange at half price.

BACK ISSUES: \$4 each plus air-mailing costs.

EXCHANGE SUBSCRIPTIONS: We are keen to exchange magazines with other Atari Users' Groups. Please write to the Secretary for details.

COPYRIGHT: Unless otherwise stated, articles in INSIDE INFO are not copyrighted. However, if any article is reprinted, acknowledgement of our source should be made. Also, please send TWO copies of the issue of your magazine to A.C.E. (N.S.W.).

ADVERTISING: Contact the Vice President for costs and conditions. Members' personal adds are free.

### REFERENCE LIBRARY

Some books are brought to meetings, others are available only by arrangement with the librarian. Loans are made only to people researching articles or talks for the club.

### DISCOUNTS AVAILABLE TO MEMBERS

You may be asked to present your membership card before being given any discounts!

COMPUTERWAVE [5% -cash only] 325 George St, Sydney.

(near Wynyard) Ph. (02) 29 1631.

THE COMPUTER SPOT [5% credit, 10% cash] Shop C4,

M.L.C. Centre, Martin Place. Ph.(02)235 2971.

COVER CARE [25% off computer dust covers] P.O. Box 719, Chatswood, N.S.W. 2067. Ph.(02)498 5631.

### MEETING DETAILS

Meetings are held at 6.00 P.M. on the first Monday of the month (or the second Monday if it clashes with a public holiday) in the Amenities Room, 7th Floor, OTC House, 32-36 Martin Place, Sydney.

NOTE: You can't enter the building after 6.30 P.M.

and you MUST sign in!

### MEETING DATES FOR 1984

3rd September \*8th October 5th November

\*3rd December.

### MEETING DATES FOR 1985

\*4th February 4th March 1st April

\* indicates release dates for INSIDE INFO.

# FROM THE PRESIDENT

Welcome to another issue of "INSIDE INFO". Over recent months the Club has been active in several areas, so I thought it timely to put some words together and let you know what's happening.

The good news is the bonus of GRAPH-FIX keyboard labels for every member free of charge -enclosed with this issue. The decision to purchase 300 labels at a cost of \$1000 was based on the healthy financial position of the club.

We now own a B&W T.V. which is used by Roberto to operate the Bulletin Board. This is a great new service offered by the Club so, if you have any questions on what it does I am sure Roberto will be pleased to talk to you.

While on the subject of T.V.'s, we have just purchased a 43 cm colour set for use at club meetings. DTC very kindly loan us one, however, with meeting attendance now reaching 50 plus the people at the rear can't see.

The Software Exchange has been busy evaluating public domain software and now has a range of quality programs available on disk and cassette.

Once again ATARI in the U.S.A. is under going change with the announcement that Mr J. Tramiel (Ex Commodore) has taken over the helm. Already he has made major changes in the organisation to, no doubt, re-align ATARI'S marketing position. Two victims of

recent changes are the User Support Program and APX. I was told by ATARI that the 23 top programs from APX will be now marketed by the Customer Relations Division.

Back on the local scene, Futuretronics and the Committee have had discussions on the proposal from them that there be one official user group in N.S.W. Futuretronics are happy to recognise A.C.E. (N.S.W.) as that group, however, the details on how we would manage other groups is yet to be determined. I would like to hear your opinion.

There has been lots of talk about running courses for members on various ATARI related subjects. Well, we propose to run the first of these, "Introduction to the ATARI computer", during August/September at a central Sydney venue. The course would run over 4 weeks with a total of 8 hours tuition. Subject headings would include: Computer Terminology, ATARI Peripherals, Care and Maintenance, Disk or Tape ?, Communications, Languages, Overview of ATARI Basic. There would be a limit of 12 students per course at an approximate cost of \$30-\$35. For further details, please contact me.

Well that's all from me, however, if there is anything you would like to discuss, please drop me a line or call.

Tony Reeve

## ATARI TAKEOVER

As already mentioned, Atari has gone through yet more major changes. Warner Communications has reduced it's interest in Atari and cut its share of the company down to 32%. There have been rumours going for ages that people like Nolan Bushnell (original founder of Atari) and even Rupert Murdoch might buy into Atari.

An unexpected event was that a guy called Jack Tramiel would have a board room argument with his Commodore International executives. Leaving his position as President at Commodore, he had a think about what he was going to do, and eventually got into Atari. Apparently he didn't actually buy into Atari but rather, picked up \$US240 million of Atari's debts. He also has the option to buy one million of Warner's share at \$US22 each.

In almost no time he reduced Atari's staff from 1100 to 300, installed 3 of his sons into key management positions, decided to shift and consolidate Atari's manufacturing facilities and to relocate the software production to Taiwan.

Tramiel won't run Atari by committee, he apparently wants full control himself and has stated that "business is war!". Tramiel intends to make Atari the home computer market leader within twelve months and has indicated that there will be a tough marketing war to do it. He has stated:- "You can be assured of my determination to, in a short period of time, dominate the home entertainment market with the

fine Atari products promoted and priced more aggressively. I know the opposition's current situation and that's why I have moved in on Atari. You can be guaranteed that with my revamped team and our leadership style, we will take the Atari fully featured products to market leadership within twelve months."

Mr Tramiel said that one major opposition brand had lost some credibility in the market place because its products were not compatible from one machine to another in the range. The products were also less reliable than Atari home computers, he explained.

Mr Tramiel also said that it was an understatement to say that the opposition brand's market leadership in a number of countries would be threatened by his planned moves in Atari. "Atari has the products, I've got the expertise, and we plan to knock the socks off the opposition", Mr Tramiel warned. "We will leave Atari's history in the past. We now look to the future and the success it will bring."

Referring specifically to Australia, Mr Tramiel said:- "Futuretronics, with its long term contract and past performance, has achieved enormous success with Atari products. They are seen as a vital link in Atari's overseas operation."

So, as you can see, Atari is still well and truly in the running!



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ATARI COMPUTER ENTHUSIASTS (N. S. W.)  
\*\*\*\*\*  
-PROPOSED CONSTITUTION-  
AUGUST 1984

(1) NAME

The official name of the club shall be "ATARI COMPUTER ENTHUSIASTS (N.S.W.)".

(2) DEFINITIONS

"CLUB" Shall refer to Atari Computer Enthusiasts (N.S.W.).

"ACE (N.S.W.)" Shall refer to Atari Computer Enthusiasts (N.S.W.).

"MEMBER" Shall refer to a person who has met the criteria laid out under (4) Membership.

"COMMITTEE" Shall refer to a person responsible for administration of the Club, who has been elected at the Annual General meeting as laid out under (6) Committee.

"INSIDE INFO" Shall refer to the newsletter published by the Club.

(3) OBJECTIVES

a) To provide owners and users of Atari Computer Systems a meeting place for general, friendly discussion.

b) To produce and circulate a newsletter to all members of the club.

c) To establish a library of computer programs and written material, for and by the members of the club to share with its members.

d) To provide activities that are representative of members' wishes.

e) To promote unity, friendship and liason between members.

f) To purchase, for resale to members, goods that are representative of members' wishes.

(4) MEMBERSHIP

a) Membership shall be open to all people who complete the membership application form and agree to abide with the constitution.

b) The prescribed membership fee, which shall be determined from time to time shall be payable at the time the application form is lodged and shall not be refundable.

c) Membership categories shall be as follows:-

\* Family membership.

\* Ordinary membership.

\* Student membership - a person under the age of 18 years and still at school.

d) Membership of any member shall be deemed to cease only:

(i) If a member fails to pay the prescribed fee, as determined by the club and/or is more than one calendar month overdue.

(ii) If a member submits a written resignation.

(iii) If a member has committed a breach of decorum, regulation or other such matter to bring the club

disrepute, he/she may be asked to attend a meeting of the committee and unless a satisfactory explanation is provided, he/she may have his/her membership terminated.

(5) GENERAL MEETING

a) There shall be ten (10) General Meetings scheduled within a twelve (12) month period.

b) The meetings shall be conducted by the Meetings Organizer.

c) The time and place of the meeting shall be determined by the committee or by the President.

d) Fifty percent (50%) of the membership or 20 members (which ever is the lesser) attending such a meeting shall constitute a quorum.

(6) COMMITTEE

a) The Committee shall consist of nine members: President, Vice President, Secretary/Treasurer and six others whose duties shall be allocated by the President, all of whom shall be elected at the Annual General Meeting of the club.

b) The composition of the Committee may be amended from time to time, as needed, by all members voting at the Annual General Meeting, or a special meeting called for that purpose.

c) Any vacancies occurring during the year may be filled by the committee at their discretion, pending an election at the next Annual General or Special Meeting.

d) The committee shall meet as and when it shall determine, or upon the request of the President or two other members of the committee.

e) The quorum at a committee meeting shall be 5 members.

(7) ANNUAL GENERAL MEETINGS

a) The Annual General Meeting shall be held in the month of November each year.

b) All members shall be given at least twenty-one (21) days notice of the meeting.

c) Nominations for all committee positions shall be called twenty-one (21) days prior to the A.G.M.

d) Financial statement shall be presented to all members by the retiring Secretary/Treasurer.

e) Fifty percent (50%) of the membership or thirty (30) members, which ever is the lesser shall constitute a quorum for the A.G.M.

f) The Committee term of office shall run from January 1 to December 31.

g) The incumbent Meetings Organizer shall conduct and supervise all elections.

h) If no nominations are accepted for any office, the chairman shall announce the vacancy and

proceed with the elections. The vacancy shall then be filled at the first General Meeting at which there are nominees.

#### (8) INDEMNITY

Every member of the Committee who, by the authority of the committee, accepts or incurs any pecuniary liability on behalf of the club shall be held indemnified by the club against any personal loss in respect of such liability.

#### (9) FINANCE

a) The Secretary/Treasurer shall receive and disburse the monies of the club as authorised by the committee.

b) An account shall be maintained at some suitable banking house under the name "Atari Computer Enthusiasts (N.S.W.)" and the President, Secretary/Treasurer and Editor, or any two of them, shall jointly operate same.

The Committee shall cause proper accounts to be kept with respect to:

1. All sums of money, received and expended by the

club and the matters in respect of which the receipt and expenditure take place.

2. All sales and purchases of goods by the club.

3. The assets and liabilities of the club.

#### (10) AMENDMENT OF CONSTITUTION

No amendment to the constitution shall be made except by resolution at the Annual General or Special Meeting passed by a two thirds majority of members present. The special meeting shall have the same quorum requirement as the A.G.M.

#### (11) DISSOLUTION

The club shall be dissolved in the event of the membership being less than 10 persons or upon the vote of a three-fourths majority of the members present at a special General Meeting convened to consider such dissolution. In the event of the disbandment, any real property shall be disposed of either by tender or by public auction, and the resulting monies, together with liquid assets, shall be donated to a charitable organisation determined at the special meeting.

## Overseas Mail Ordering

In Inside Info No.10 (December 1983) there was an article on "Overseas Mail Ordering". This article mentioned that MasterCard and Visa Card would soon be available, so for those of you who are interested in using these cards for overseas mail-ordering, here are some details. I wrote to A.N.Z.(ANZ), Westpac (W) and National Australia (NA) Banks, the answers they gave are quoted below, in combination I feel that they give a fairly complete picture.

\*\*\*\*\*

Q1 Is there an issuing fee or annual fee for the use of MasterCard? If not, will these charges be introduced at a later date, and how much will they be?

(ANZ) There is no annual or issuing fees on an ANZ Visa Card, but the bank has an option to place a fee (whether it be issuing fees or change in rates) on a Visa Card in the future. All cardholders will be notified in writing by the bank prior to any expected future alteration to charges.

(NA) At present there is no issuance or renewal fee and we are unable to say at this time if a fee will be introduced in the future.

(W) There is no issuing fee or annual fee on Westpac MasterCard. The bank has no plans to introduce issuing/annual fees on existing MasterCards at a later date.

\*\*\*\*\*

Q2 If I mail-order for goods from overseas by sending my MasterCard number (along with an authority to debit my MasterCard account for the goods), what assurance is there that the mail-order house won't overcharge me for goods or for that matter, charge me for goods I don't order? Would I have to pay if this happened?

(ANZ) There is no assurance that a mail order house might overcharge you for goods. If this does occur we ask that the cardholder writes to this department (Bank Card Dept.) and we will investigate the matter on their behalf.

(NA) No assurance can be given that a mail order merchant will not overcharge or charge you for goods you did not order. However, should this occur we would be in a position to charge any disputed amount back to the merchant upon your written request.

(W) There is no assurance that overseas mail order firms will not overcharge your quoted MasterCard account for goods ordered by you. For logistical reasons, the bank's generally are unable to stringently enforce this. However, mail and/or telephone order merchants are carefully vetted by most banks prior to MasterCard merchant sign up. Written complaints from Westpac MasterCard holders regarding unsatisfactory merchant (whether Westpac, other local banks, or overseas) behaviour are taken up by us with the merchant bankers. In some circumstances a refund of funds debited to your account by the merchant can be obtained. For example, where the merchant has not supplied the goods requested, or has acted outside the terms of the MasterCard Merchant Agreement.



Q3 I understand that there is an imposed limit on the amount of money that people can send overseas. Does this still apply with MasterCard?

(ANZ) The amount you can order from an overseas merchant can sometimes depend upon the exchange controls of that particular country. If A.C.E. mainly deals with US merchants you should not have any troubles with exchange controls. Each card has a predetermined credit limit which is the amount that can be spent up to.

(NA) There is no restriction as long as your purchase falls within Exchange Control regulations. For further details you will need to phone the Reserve Bank exchange control section.

(W) The Reserve Bank of Australia presently has no restriction on the amounts MasterCard holders may spend overseas on their cards, provided that funds are not used to purchase stocks, shares or other forms of investment. Westpac's own credit limit, peculiar to each individual's account, naturally applies.

\*\*\*\*\*

Q4 I have heard that your interest rate on the card is 1.4% per month or 16.8% per year. Do you have a one month period during which no interest is payable (like Bankcard), or is interest charged from the time of the transaction?

(ANZ) The interest rate on a Visa Card is 18% per year or 1.5% per month. The interest rate on a cash advance is 0.04931% per day.

Each Visa account is on a monthly cycle issue and you have 25 days from the date of statement to make the payment. You can either pay the full balance or the minimum of 5% of the closing balance.

(NA) For the present our interest rate is 18% per annum or 1.5% per month. We advise there is a 25 day free credit period which is the same as for Bankcard.

(W) Westpac's MasterCard rate is 1.4% per month (16.8% per annum) calculated from the day transactions are debited to your account. There is no interest free period.

\*\*\*\*\*

Q5 Once my order is received by the mail-order house, how long will it take them to check that my credit card number is valid?

(ANZ) Once the mail order merchant receives the authority to debit your card he rings his local authorisation section who will tell the merchant if the sale is approved or declined.

(NA) Under normal circumstances immediate authorisation is available.

(W) Authorisations applicable to MasterCard transactions, whether by mail order merchant or

otherwise, are available to scheme registered merchants on Westpac cardholders 24 hours a day, 365 days a year. Authorisations generally are telephonically available within minutes, depending on distance, time of day, etc.

\*\*\*\*\*

Q6 After an overseas mail-order house debits my card for goods, how long will it take for me to receive the account?

(ANZ) To make a payment on your Visa Card you just go into any branch of the ANZ Bank, present your Visa Card or statement and they will process it for you.

(NA) When an item is processed the transaction will appear on your next monthly statement. You will then have 25 days to make payment.

(W) Time for transactions to reach a cardholders account may vary, depending on the geographical location of the merchant, and whether he banks daily, weekly etc. It can be as quick as one week, or conversely, as slow as 4-5 weeks.

\*\*\*\*\*

Q7 Knowing that my card is going to be debited, is it possible to build up a credit (in advance) on my card which will pay the bill before it is charged? If so, how would I do this?

(ANZ) A credit may be placed into your account but you do not earn interest while your account is in credit.

(NA) You can make a payment to your account at any time by lodging it in any Bank displaying the MasterCard symbol. There is no reason you can not conduct your account in credit.

(W) Westpac has no plans to prohibit cardholders from repaying their MasterCard accounts to achieve a credit balance, and therefore avoid interest.

#### \*Further Comments\*

Westpac advised that most MasterCard transactions initiated outside Australia, are generated through the overseas MasterCard system in US dollars. For instance, a transaction in London would entail a conversion from sterling pounds to US dollars and subsequently to Australian dollars when it reached Australia. A USA transaction would require only the one conversion -from US dollars to Australian dollars.

Some good news is that the high import duty on software has been dropped. The rate now charged is 35% of the estimated value of the media (about \$3 on a \$8-10 disk) NOT the software itself. 20% sales tax is then added. Documentation is duty free but 20% salestax is charged.



# Sector Editor

Ken Shiu. (Lugarno, N.S.W)

SECTOR EDITOR is a DOS 2 based program which allows you to modify the bytes within a disk sector to your heart's content. The major difference between this editor and others is that it allows you to type directly from the keyboard without having to convert from ATASCII to decimal or hex.

Since Ken Scalley has already discussed disk sectors (see DISKussion column in Inside Info Nos.11 & 12) I'll not worry about explaining them here.

Before I proceed, a word of CAUTION -this sector editor will write directly to your disk. This can do more damage than good in the hands of an unknowing user. USE IT WITH CARE!!!!

## OPERATION

When SECTOR EDITOR is run, you'll be greeted with the title screen and prompted to input the number of the sector you would like to edit -this number must be between 1 and 720. You'll then be prompted to insert the source disk and press RETURN.

The contents of that sector will then be loaded into memory and the computer will pause momentarily as it converts the sector data. The sector data will then be displayed on the screen in the blue window. On the left side of the screen the sector data is displayed in hex while the ATASCII equivalent will be displayed on the right. All of this is depicted in the accompanying diagram.

Above the blue window the sector number and number of program bytes contained in the sector will be displayed. The byte value will only be true for DOS file sectors (sectors 4-359 and 369-720), rather than file management sectors such as the BOOT sectors (sectors 1-3), the Volume Table of Contents (VTOC) sector (sector 360) and the Disk Directory sectors (sectors 361-368).

Below the blue window the current mode will be shown -initially this will be the cursor key mode. In all there are six modes:- EDIT DATA, CURSOR KEYS, SEARCH, NEW SECTOR, WRITE DATA and EXIT. Use SELECT to cycle forward through the modes and OPTION to cycle backwards through the modes, then hit START to engage the displayed mode.

## CURSOR KEY MODE

The cursor is in the form of a pair of inverse brackets "[ ]" in the hex (sector) data area. Use the cursor keys to move about the sector data -you don't need to hold down the CONTROL key.

## EDIT DATA MODE

To edit the sector data, press SELECT or OPTION until 'EDIT DATA' appears. Assuming that you have already positioned the cursor to the first byte you want to edit, simply press START and you will enter the EDIT DATA mode.

Type in your new data and you will see the data changing -the ATASCII information will automatically updated to read exactly as you have typed. The best use of the editing mode is to create identification messages in sector 720 (which is unused by DOS 2) or changing the disk directory. Exit the EDIT mode by entering any other mode.

## SEARCH MODE

To search for the presence of a particular byte, enter the SEARCH mode using SELECT or OPTION and START. You will be prompted to press A, H, or D (for ATASCII, Hex or Decimal input), then enter the byte to be searched for.

A search will be made with all occurrences of the byte being highlighted in inverse video.

## NEW SECTOR MODE

To edit another sector, press START when NEW SECTOR appears (while cycling through the options) the program will then re-run from the start.

## WRITE DATA

To write your new (edited) sector to disk, cycle through the modes until WRITE DATA appears. Press START and you will be prompted to press RETURN to write to disk or press any other key to abort the write procedure. If you press RETURN the new data will be written to disk -be sure that you really do want to write the new data to disk and that you have the correct disk in your drive, otherwise you WILL damage your disk files!!!

After writing to disk, the program will retain the current sector data. You can write this data to as many disks as you like -very handy for putting the same label into the same sector of every disk.

## EXIT

Exit the program by entering the exit mode. Press Y to confirm and then OPTION, SELECT or START to reboot, enter DOS menu, return to BASIC respectively.

Well, that about sums up the features of SECTOR EDITOR.

## SECTOR EDITOR SECTOR:361 BYTES:0 -SECTOR DATA- ATASCII

[62]	27 00 04 00 44 4F 53	b'W' DOS
20	20 20 20 20 53 59 53	SYS
62	2A 00 2B 00 44 55 50	b'*'+DUP
20	20 20 20 20 53 59 53	SYS
62	33 00 55 00 46 49 4C	b3UUFIL
45	4E 41 4D 45 45 58 54	ENAMEEXT
62	33 00 88 00 4C 4F 43	b3WVLOC
4B	45 44 20 20 42 41 53	KED BAS
42	33 00 8B 00 43 55 52	B3WV'CUR
52	45 4E 54 20 42 41 53	RENT BAS
80	33 00 EE 00 44 45 4C	[3WVDEL
45	54 45 44 20 42 41 53	ETED BAS
62	33 00 21 01 53 45 43	b3WV!SEC
54	45 44 49 54 42 41 53	TEDITBAS
00	00 00 00 00 00 00 00	*****
00	00 00 00 00 00 00 00	*****

CHANGE MODE: OPTION= -ve SELECT= +ve  
START = EXECUTE MODE  
MODE = CURSOR KEYS

DIAGRAM: THE FIRST SECTOR OF A DOS 2 DISK DIRECTORY. EACH FILE ENTRY OCCUPIES 16 BYTES (2 LINES). THE FIRST FILE BYTE INDICATES THE FILE'S STATUS. A 'b' INDICATES A LOCKED FILE. A 'B' INDICATES A CURRENT FILE. AN INVERSE HEART INDICATES THE FILE HAS BEEN DELETED -CHANGING THIS TO 'B' OR 'b' WILL ENABLE YOU TO LOAD THE FILE AND RESAVE IT, RESTORING IT IF IT HADN'T BEEN OVERWRITTEN.



```

1 REM #####
2 REM # SECTOR EDITOR #
3 REM # by Ken Shiu #
4 REM # Published by Atari Computer #
5 REM # Enthusiasts (N.S.W.) #
6 REM # August 1984 #
7 REM #####
10 GRAPHICS 0:POKE 710,155:POKE 709,0:
POKE 712,10:POKE 708,0:POKE 711,50
20 DIM S$(128),E$(20),HEX$(256),H$(16)
,H1$(2),M$(66):POKE 82,0:OPEN #1,4,0,"
K:"
30 POKE 16,64:POKE 53774,64
40 FOR T=1 TO 128:S$(T,T)="":NEXT T:M
$="EDIT DATA CURSOR KEYSSEARCH NE
W SECTOR WRITE DATA EXIT "
50 RESTORE 980:FOR T=1664 TO 1668:READ
A:POKE T,A:NEXT T
60 M=ADR(S$):HI=INT(M/256):LO=M-256*HI
:POKE 752,1:H$="0123456789ABCDEF"
70 DL=PEEK(560)+PEEK(561)*256+4:POKE D
L-1,70:POKE DL+2,6:POKE DL+23,6:POKE D
L+24,6
80 ? CHR$(125);" sector editor
BY KEN SHIU"
90 TRAP 90:POSITION 0,21:CHR$(253);"
WHICH SECTOR ";:INPUT SEC:IF SEC<1 OR
SEC>720 THEN 90
100 C=82:GOSUB 900
110 IF PEEK(771)<>1 THEN GOTO 940
120 BYT=ASC(S$(128)):IF BYT>128 THEN B
YT=BYT-128
130 POSITION 20,0: "SECTOR: ";CHR$(
30);CHR$(30);CHR$(30);SEC:POKE 85,31:
? "BYTES:";BYT
140 POSITION 0,21: "
working... ";
150 FOR T=1 TO 128:A=ASC(S$(T,T)):B=IN
T(A/16):C=A-B*16
160 H1$(1,1)=H$(B+1,B+1):H1$(2,2)=H$(C
+1,C+1):HEX$(LEN(HEX$)+1)=H1$:NEXT T
170 POSITION 8,1: "SECTOR DATA-":POS
ITION 30,1: "ATASCII"
180 C=1:FOR B=3 TO 18:FOR A=3 TO 26:ST
EP 3
190 POSITION A,B:HEX$(C,C+1):C=C+2:N
EXT A:NEXT B
200 C=1:FOR B=3 TO 18:FOR A=30 TO 37:P
OSITION A,B:CHR$(27);S$(C,C):C=C+1:
NEXT A:NEXT B
210 POSITION 1,20: "CHANGE MODE: OPTI
ON= -ve SELECT= +ve":MODE=12:X1=2:Y1=3
220 POSITION X1,Y1: "[CHR$(31);CHR$(
31);"J";
230 POSITION 0,21: "start = execute m
ode":IF MODE<1 THEN MODE=56
240 IF MODE>56 THEN MODE=1
250 POSITION 20,21: "mode = ";M$(MOD
E,MODE+10):POKE 764,255
260 TRAP 940:IF PEEK(764)<>255 THEN BE
T #1,A:GOTO 310
270 IF PEEK(53279)=5 THEN FOR T=1 TO 3
0:SOUND 0,150,10,8:NEXT T:SOUND 0,0,0,
0:MODE=MODE+11:GOTO 230
280 IF PEEK(53279)=3 THEN FOR T=1 TO 3
0:SOUND 0,150,10,8:NEXT T:SOUND 0,0,0,
0:MODE=MODE-11:GOTO 230
290 IF PEEK(53279)=6 THEN 340
300 GOTO 260
310 IF MODE=1 THEN GOSUB 720
320 IF MODE=12 THEN GOSUB 400
330 GOTO 250
340 IF MODE=23 THEN 480
350 IF MODE=34 THEN RUN
360 IF MODE=45 THEN 890
370 IF MODE=56 THEN 790
380 POSITION 0,21: "
":GOTO 250
390 REM CURSOR KEYS
400 IF A<45 AND A<61 AND A<42 AND A>
43 THEN RETURN
410 POSITION X1,Y1: " ";CHR$(31);CHR$(
31);" ";
420 IF A=45 THEN Y1=Y1-1:IF Y1<3 THEN
Y1=18
430 IF A=61 THEN Y1=Y1+1:IF Y1>18 THEN
Y1=3
440 IF A=43 THEN X1=X1-3:IF X1<2 THEN
X1=23
450 IF A=42 THEN X1=X1+3:IF X1>23 THEN
X1=2
460 POSITION X1,Y1: "[CHR$(31);CHR$(
31);"J";:RETURN
470 REM SEARCH
480 T=1:C=0:POSITION 0,21:CHR$(156);
CHR$(156);"FORMAT:HEX/DEC/ASCII":GET
#1,A:IF A=72 OR A=68 OR A=65 THEN 500
490 ? CHR$(253):GOTO 480
500 TRAP 500:FLAG=A:POSITION 0,21:CH
R$(156);"SEARCH FOR:":INPUT H1$
510 IF A=68 THEN 600
520 IF A=65 THEN 610
530 IF LEN(H1$)=1 THEN E$=H1$:H1$="0":
H1$(LEN(H1$)+1)=E$
540 IF H1$=HEX$(T,T+1) THEN 570
550 T=T+2:IF T=257 THEN 590
560 GOTO 540
570 B=INT(T/16):A=T-B*16:A=INT(A/2)*3+
2:B=B+3:POSITION A,B:A=ASC(HEX$(T,T)):
A=A+128:E$=CHR$(A)
580 B=ASC(HEX$(T+1,T+1))+128:E$(LEN(E$
)+1)=CHR$(B):? " ";E$:C=1:GOTO 550
590 GOTO 660
600 H=INT(VAL(H1$)):H1$=CHR$(H):IF H<0
OR H>255 THEN 500
610 IF H1$=S$(T,T) THEN T=T-1:GOTO 640
620 T=T+1:IF T=129 THEN 660
630 GOTO 610
640 B=INT(T/8):A=T-B*8:A=A+3+2:B=B+3:P
OSITION A,B:T=T+1:A=ASC(HEX$(T-1,T-2
-1)):A=A+128
650 E$=CHR$(A):B=ASC(HEX$(T-2,T-2)):B=
B+128:E$(LEN(E$)+1)=CHR$(B):? " ";E$:C
=1:GOTO 620
660 IF C=1 THEN 220
670 POSITION 0,21:CHR$(156);CHR$(253
);" UNABLE TO FIND:":IF FLAG=68 THEN
? H
680 IF FLAG=65 THEN ? " CHR$(");AS
C(H1$);")"
690 IF FLAG=72 THEN ? "$";H1$
700 FOR T=1 TO 1000:NEXT T:GOTO 220
710 REM EDIT
720 T=(Y1-3)*8:T=T+((X1+1)/3)*8:(T,T)=
CHR$(A):B=INT(A/16):C=A-B*16
730 H1$=H$(B+1,B+1):H1$(2,2)=H$(C+1,C
+1):HEX$(T-2,T-2)=H1$:POSITION X1,Y1:
? " ";HEX$(T-2,T-2);" ";
740 T=T-(Y1-3)*8:POSITION 29,T,Y1:CH
R$(27);CHR$(A)
750 X1=X1+3:IF X1>23 THEN Y1=Y1+1:X1=2
760 IF Y1>18 THEN Y1=3
770 POSITION X1,Y1: "[CHR$(31);CHR$(
31);"J";:RETURN
780 REM EXIT
790 ? CHR$(125);" sector editor
BY KEN SHIU"
800 POSITION 13,7: "QUIT PROGRAM-":?
:CHR$(127);" PRESS -Y- TO CONFIRM
":GET #1,A:IF A<>89 THEN RUN
810 ? :CHR$(127);CHR$(30);"PRESS OPT
ION TO REBOOT DISK."
820 ? :CHR$(127);CHR$(30);"PRESS SEL
ECT TO ENTER DOS."
830 ? :CHR$(127);CHR$(30);"PRESS STA
RT TO ENTER BASIC."
840 IF PEEK(53279)=3 THEN X=USR(58487)
850 IF PEEK(53279)=5 THEN DOS
860 IF PEEK(53279)=6 THEN GRAPHICS 0:P
OKE 82,0:POKE 752,0:POKE 580,0:POKE 16
,192:POKE 53774,192:END
870 GOTO 840
880 REM READ/WRITE
890 C=87:POSITION 0,21: " return = WR
ITE DATAany key = ABORT ";:GOSUB 910
:GOTO 230
900 POSITION 0,21: " INSERT DISK AND
PRESS return ";
910 GET #1,A:IF A<>155 THEN POP :GOTO
230
920 POKE 779,INT(SEC/256):POKE 778,INT
((SEC/256-INT(SEC/256))*256):POKE 769,
1
930 POKE 772,LO:POKE 773,HI:POKE 770,C
:X=USR(1664):RETURN
940 ST=PEEK(771):RESTORE 990:TRAP 4000
0
950 READ E,E$
960 IF E=ST THEN ? CHR$(125):POSITION
INT((40-(8+LEN(E$)))/2),10: "ERROR:
";E$:FOR T=1 TO 1000:NEXT T:RUN
970 GOTO 950
980 DATA 104,32,83,228,96
990 DATA 138,DEVICE TIMEOUT,139,DEVICE
NAK,140,SERIAL FRAME ERROR,142,SERIAL
BUS OVERRUN
1000 DATA 143,CHECKSUM ERROR,144,DEVIC
E DONE ERROR

```

...



# InterACTION!

## ACTION! Programming Language

by Ken Scalley (Baulkham Hills, N.S.W.)

\$US99.00 from OSS Precision Software.

My main interest since I bought my Atari has been in writing utility programs, to make it easier for me to do other things (mainly write more utilities!). So when I started to read the reviews of the new language for the Atari -ACTION!, I mortgaged the dog and placed my order.

Less than two weeks later I received my package, after a slight detour through Customs. It contained the ACTION! cartridge and two optional disks -I was into ACTION!.

The ACTION! cartridge consists of four distinct parts:-

MONITOR -the part which runs the whole show.

EDITOR -this is used to input your source code, and to edit it.

COMPILER -which converts your source code to machine code.

RUN-TIME PACKAGE -this contains the support to run your compiled program. Standard functions, like print and graphics are done by a call to this package.

The MONITOR actually switches the other three parts in and out of memory, so that only one of the three (together with the MONITOR) is in memory at any one time. This means you have a 16K cartridge but use only 8K of your precious memory.

ACTION! is a true compiled language, that is, the source code you enter is converted to pure machine code and then run -this being distinct from an interpretive language like Atari BASIC, which converts each line each time it is used. A compiled language generally gives you improved execution speed, at the expense of slower program development time -it must be fully converted each time you want to test it.

ACTION! is a very different language to BASIC -not completely completely different though. I have not had a great deal of trouble learning it, but a few items are still giving me some trouble.

To my way of thinking, the main advantage of ACTION! is its speed of execution -it can easily run 100 to 200 times faster than Atari BASIC, depending on the program being run. I have not found anything that Atari BASIC does faster than ACTION!.

As a compiled language, the compilation time is incredible -compiling source code from memory to compiled code in memory never seems to take more than a few seconds and I have written some programs that are pushing total memory size. As a programming language, it has superb constructs, including:-

```
IF..THEN..ELSE
WHILE..DO
DO..UNTIL
```

and can be structured to make an easily read code -no more messy GOTO's, etc. It has commands to move blocks of memory, initialise a block, etc.

There are very few disadvantages with ACTION!. As mentioned above, source code must be compiled each time when testing but compiled code can be saved to disk for subsequent running when tested. String handling is perhaps not as easy, with string length being limited to 255 characters -but I have managed to do anything I have wanted to do with strings in ACTION! and more quickly than with BASIC.

Perhaps the main disadvantage is (as with any new language) that it must be learned -but it is well worth it.

At this stage, a word must be said about the editor (not you Chris!). It is the best editor I have ever worked with. Commands include \*\* tabs.

```
** find text.
** rejoin lines.
** go to end of file.
** go to end of line.
** go to start of file.
** go to start of line.
** move blocks of code.
** undo corrections to a line.
** break a line in the middle.
** replace text with other text.
** maximum line lengths of 240(!) characters.
** tags -mark a line, and jump back immediately
    when editing.
** windows -edit two files in memory at once!
```

Even copy from one file to another save the file to disk, and it remembers the name of your file -just hit return. All this and much more. It rivals a word-processor -this article is being written using the editor.

[Editor's Note: It was very easy to edit but it had to be formatted for printing in Inside Info. After having seen ACTION! in action I can't help but wonder why the makers of ACTION! haven't produced a word processor along similar lines!!!]

I have only had a few problems that could possibly be attributed to "bugs", and they are fairly obscure problems. Overall the package is superbly put together, and well supported.

So, if you are looking for a language that offers more "high level" capabilities than BASIC, incredible speed without having to resort to machine code at all, a wonderful editor, and are prepared to spend a little time learning a new language..

..get into ACTION!

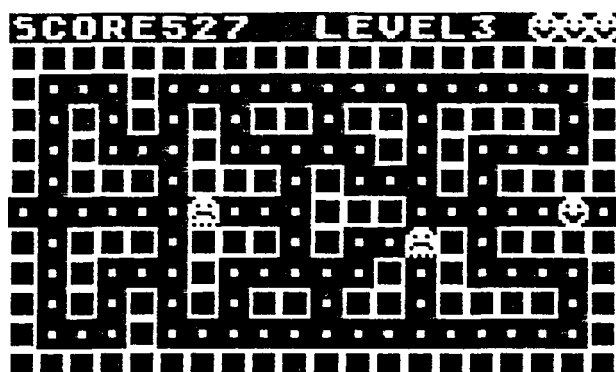


# Gobbler

by Sydney Brown. (Rockhampton, Queensland)  
Reprinted from Eugene ACE Newsletter August/September 1982.

You are inside a maze collecting gold nuggets, but you have a problem -the gold you are collecting is not yours, it belongs to the Globs. As you can imagine, the Globs are not at all pleased and try to catch you. Your aim is to collect all the gold you can before the Globs can catch you! There are two screens, the first is a maze filled with gold nuggets and the second is an open area filled with nuggets. You start with one Glob but an extra Glob appears each time you reach a higher level, and you can be sure that they'll keep you on your toes!

You only have 4 chances to collect all of the gold using joystick number 1 to control your smiley. Each nugget you pick up will score 1 point while the bag of gold which appears from time to time will earn you 20 points. You get bonus of 100 for each completed maze.



The Gobbler program uses mostly standard programming methods -a complete description follows:-

Lines 10-120 display the game instructions.

Lines 130-160 redefine part of the character set and copies the whole character set to a new area of memory. The computer is then redirected from the ROM based character set to the new, redefined characters. I have reserved two pages (512 bytes) at the top of user RAM and placed the new character set up there by reading the DATA statements in lines 1180-1230 and

placing them in the correct position and order. Each number represents the binary code for one line of one character.

Lines 170-230 initialise all the variables and modify the basic maze for the level you have reached.

Lines 340-430 determine the number of Globs which will be in the level you have reached.

Lines 440-740 give the Globs their limited intelligence and control their movement.

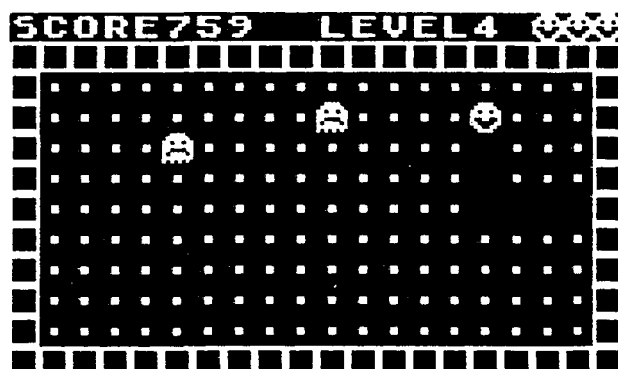
Lines 750-820 produce the smiles on the Globs and the shocked look on the man. Instead of having extra characters I just POKEd the slight variation directly into the new character set to produce the desired 'facial' expression. This changes the characters simply and quickly without having to PLOT new characters into the positions of the Globs or the man.

Lines 870-880 are used in connection with lines 890-1070 to display the end of a level and to step to the next level.

Lines 890-1030 check for when the man hits a nugget, a bag of gold or a tunnel at the edge of the screen.

Lines 1080-1150 draw the maze and boundaries for each level.

Lines 1160-1170 fill all of the blank areas with nuggets.



```
1 REM #####
2 REM # GOBBLER #
3 REM # by Sydney Brown #
4 REM # Eugene A.C.E. Newsletter #
5 REM # August/September 1982 #
6 REM # Reprinted by A.C.E.(N.S.W.) #
7 REM # August 1984 #
8 REM #####
10 POKE 82,B:GRAPHICS 0:POKE 710,224:P
OKE 709,14:POKE 752,1:DIM C(5),H(5),V(
5)
20 ? CHR$(17);:FOR I=1 TO 23: ? CHR$(18
):NEXT I: ? CHR$(5): ? "I 6 0 B B L
E R I"
30 ? CHR$(26);:FOR I=1 TO 23: ? CHR$(18
):NEXT I: ? CHR$(3):POKE 82,2: ? "YO
```

```
U ARE INSIDE A MAZE COLLECTING GOLD"
40 ? "NUGGETS, BUT YOU HAVE A PROBLEM.
": ? "THE GOLD YOU ARE COLLECTING IS NO
T": ? "YOURS, IT BELONGS TO THE GLOBS."
50 ? "AS YOU CAN IMAGINE, THE GLOBS AR
E NOT": ? "AT ALL PLEASED AND TRY TO CA
TCH YOU."
60 ? "YOU TRY TO COLLECT ALL THE GOLD
YOU": ? "CAN BEFORE YOU ARE CAUGHT!": ?
: ? "EACH LEVEL IS MORE DIFFICULT. YOU"
70 ? "HAVE 4 CHANCES TO COLLECT THE GO
LD."
80 ? "USE JOYSTICK 1 TO CONTROL YOUR S
MILEY.": ? "EACH NUGGET SCORES 1 POINT
& THE BAG": ? "OF GOLD SCORES 20."
90 ? : ? "A BONUS OF 100 FOR A COMPLETE
```

```
D MAZE.": ? : ? "by Sydney Brown-Fun-Co
": ? "given to ACE members"
100 ? "Press START to start the game";
:POKE 53279,8
110 IF PEEK(53279)<>6 THEN 110
120 POKE 106,PEEK(106)-2:GRAPHICS 18: ?
#6: ? "setting up"
130 POKE 710,140:POKE 708,14:POKE 709,
236:POKE 711,222:A=PEEK(106)+256:FOR B
=0 TO 511
140 IF B>319 AND B<352 THEN READ D:POK
E A+B,D:NEXT B
150 IF B>367 AND B<376 OR B>383 AND B<
392 THEN READ D:POKE A+B,D:NEXT B
160 ZZ=PEEK(57344+B):POKE A+B,ZZ:SOUND
0,ZZ,10,B:NEXT B:POKE 756,PEEK(106)
```

```

170 X=19:Y=0:AX=0:L=1:S=0:POSITION 0,0
1? #6;"score0" LEVEL1jjj"
180 COLOR 234:PLOT X,Y:H=9:V=0:ND=0
190 ON L GOSUB 1080,1160,1080,1160,1080,1160,1080,1160,1080,1160,1080,1160,1080,1160,1080,1160
200 COLOR 32:PLOT 16+AX,0:POSITION 15,0:
? #6;L:IF L>10 AND L/2<>INT(L/2) THEN COLOR 72:PLOT 0,6:PLOT 19,6:ND=2
210 EX=22:X=18:Y=6:CY=1:COLOR 234:PLOT X,Y:IF L>12 THEN COLOR 72:PLOT 10,3:PLOT 10,9:ND=ND+2
220 H(1)=1:V(1)=6:C(1)=235:H(2)=10:V(2)=10:C(2)=235:H(3)=6:V(3)=2:C(3)=235:IF L>14 THEN COLOR 72:PLOT 2,6:ND=ND+1
230 H(4)=18:V(4)=3:C(4)=235:H(5)=9:V(5)=6:C(5)=235:IF L>16 THEN COLOR 72:PLOT 14,6:ND=ND+1
240 ST=STICK(0)
250 IF ST=11 AND X<1 THEN LOCATE 19,Y,Z:IF Z=32 OR Z=235 OR Z=112 THEN GOSUB 890:X=X-1:IF X<0 THEN X=19
260 IF ST=11 THEN LOCATE X-1,Y,Z:IF Z=32 OR Z=235 OR Z=112 THEN GOSUB 890:X=X-1:IF X<0 THEN X=19
270 IF ST=7 AND X>18 THEN LOCATE 0,Y,Z:IF Z=32 OR Z=235 OR Z=112 THEN GOSUB 890:X=X+1:IF X>19 THEN X=0
280 IF ST=7 THEN LOCATE X+1,Y,Z:IF Z=32 OR Z=235 OR Z=112 THEN GOSUB 890:X=X+1:IF X>19 THEN X=0
290 IF ST=14 THEN LOCATE X,Y-1,Z:IF Z=32 OR Z=235 OR Z=112 THEN GOSUB 890:Y=Y-1
300 IF ST=13 THEN LOCATE X,Y+1,Z:IF Z=32 OR Z=235 OR Z=112 THEN GOSUB 890:Y=Y+1
310 IF ST<>15 THEN COLOR 234:PLOT X,Y
320 EX=EX+1:IF EX>100 THEN H=INT(RND(0)*17)+1:V=INT(RND(0)*9)+1:LOCATE H,V,Z:IF Z=32 THEN COLOR 112:PLOT H,V:EX=0
330 IF EX=20 THEN COLOR 32:PLOT H,V:COLOR 234:PLOT X,Y:POKE 77,0
340 CY=CY+1:IF CY>5 THEN CY=1
350 ON L GOTO 400,400,390,390,380,380,370,370,360,360,360,360,360,360,360,360
360 IF CY=5 THEN N=5:GOSUB 440:GOTO 240
370 IF CY=4 THEN N=4:GOSUB 440:GOTO 430
380 IF CY=3 THEN N=3:GOSUB 440:GOTO 430
390 IF CY=2 THEN N=2:GOSUB 440:GOTO 420
400 IF CY=1 THEN N=1:GOSUB 440:GOTO 410
410 IF L=1 OR L=2 THEN FOR W=1 TO 10:NEXT W
420 IF L=3 OR L=4 THEN FOR W=1 TO 5:NEXT W
430 GOTO 240
440 IF Y>V(N) THEN 610
450 IF X<H(N) THEN 540
460 IF Y<V(N) THEN 680
470 LOCATE H(N)+1,V(N),Z:IF Z=234 THEN 750
480 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):H(N)=H(N)+1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
490 LOCATE H(N),V(N)+1,Z
500 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):V(N)=V(N)+1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
510 LOCATE H(N),V(N)-1,Z
520 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):V(N)=V(N)-1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
530 RETURN
540 LOCATE H(N)-1,V(N),Z:IF Z=234 THEN 750
550 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):H(N)=H(N)-1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
560 LOCATE H(N),V(N)+1,Z
570 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):V(N)=V(N)+1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
580 LOCATE H(N),V(N)-1,Z
590 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):V(N)=V(N)-1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
600 RETURN
610 LOCATE H(N),V(N)+1,Z:IF Z=234 THEN 750
620 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):V(N)=V(N)+1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
630 IF H(N)<19 THEN LOCATE H(N)+1,V(N),Z
640 IF (Z=32 OR Z=235) AND H(N)<19 THEN N=COLOR C(N):PLOT H(N),V(N):H(N)=H(N)+1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
650 LOCATE H(N)-1,V(N),Z
660 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):H(N)=H(N)-1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
670 RETURN
680 LOCATE H(N),V(N)-1,Z:IF Z=234 THEN 750
690 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):V(N)=V(N)-1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
700 LOCATE H(N)+1,V(N),Z
710 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):H(N)=H(N)+1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
720 LOCATE H(N)-1,V(N),Z
730 IF Z=32 OR Z=235 THEN COLOR C(N):PLOT H(N),V(N):H(N)=H(N)-1:COLOR 201:PLOT H(N),V(N):C(N)=Z:RETURN
740 RETURN
750 PP=PEEK(106)*256+332:POKE PP,189:POKE PP+1,195:POKE PP+8,231:FOR W=0 TO 160 STEP 10:FOR WW=W TO W+20 STEP 2
760 SOUND 0,WW,10,10:IF WW>W+9 THEN COLOR 106:PLOT X,Y
770 IF WW<W+10 THEN COLOR 234:PLOT X,Y
780 NEXT WW:NEXT W:AX=AX+1
790 COLOR 238:PLOT X,Y:FOR W=250 TO 5 STEP -7:SOUND 0,W,2,14:NEXT W:COLOR 32:PLOT X,Y
800 POKE PP,195:POKE PP+1,189:POKE PP+8,153:SOUND 0,0,0,0
810 IF AX<4 THEN 180
820 COLOR 238:PLOT X,Y:POSITION 4,11:
? #6;"gameHHHHover":POKE 53279,8
830 FOR W=1 TO 100:NEXT W:FOR WW=1 TO 3:FOR W=0 TO 255 STEP 2:SOUND 0,W,10,10:SOUND 1,255-W,10,10:NEXT W:NEXT WW
840 SOUND 0,0,0,0:SOUND 1,0,0,0
850 IF PEEK(53279)<>6 THEN 850
860 POSITION 0,0:
? #6;CHR$(125):GOTO 170
870 L=L+1:POSITION 15,0:
? #6;L
880 GOTO 180
890 COLOR 32:PLOT X,Y:IF Z=32 THEN RETURN
900 IF Z=112 THEN 940
910 SOUND 0,49,10,10:S=S+1:ND=ND+1:POSITION 5,0:
? #6;S:IF L/2<>INT(L/2) AND ND>105 THEN 980
920 IF L/2=INT(L/2) AND ND>160 THEN 980
930 SOUND 0,0,0,0:RETURN
940 S=S+20:POSITION 5,0:
? #6;S:FOR WW=1 TO 7:FOR W=0 TO 50 STEP 10:SOUND 0,W,10,14
950 IF WW=1 OR WW=3 OR WW=5 OR WW=7 THEN COLOR 234:PLOT H,V
960 IF WW=2 OR WW=4 OR WW=6 THEN COLOR 112:PLOT H,V
970 NEXT W:NEXT WW:SOUND 0,0,0,0:RETURN
980 LOCATE X,Y+1,Z:IF Z=235 THEN Y=Y+1:GOTO 1040
990 LOCATE X,Y-1,Z:IF Z=235 THEN Y=Y-1:GOTO 1040
1000 IF X<19 THEN LOCATE X+1,Y,Z:IF Z=235 THEN X=X+1:GOTO 1040
1010 IF X>0 THEN LOCATE X-1,Y,Z:IF Z=235 THEN X=X-1:GOTO 1040
1020 LOCATE 0,6,Z:IF Z=235 THEN X=0:Y=6:GOTO 1040
1030 LOCATE 19,6,Z:IF Z=235 THEN X=19:Y=6
1040 COLOR 234:PLOT X,Y:FOR W=190 TO 0 STEP -5:SOUND 0,W,10,10:SOUND 1,W+1,1

```



```

0,10:IF W/10=INT(W/10) THEN POKE 712,1
84
1050 IF (W-5)/10=INT((W-5)/10) THEN PO
KE 712,0
1060 NEXT W:S=S+100:POSITION 5,0: ? #6;
S
1070 SOUND 0,0,0,0:SOUND 1,0,0,0:POKE
712,0:GOTO 870
1080 COLOR 72:PLOT 0,1:DRAWTO 19,1:DRA
WTO 19,11:DRAWTO 0,11:DRAWTO 0,1:PLOT
4,2:PLOT 4,3:PLOT 4,10:PLOT 4,9
1090 PLOT 2,3:DRAWTO 2,5:DRAWTO 4,5:PL
OT 2,9:DRAWTO 2,7:DRAWTO 4,7:PLOT 8,3:
PLOT 9,3:PLOT 8,9:PLOT 9,9:PLOT 6,3
1100 DRAWTO 6,5:DRAWTO 8,5:PLOT 6,9:DR
AWTO 6,7:DRAWTO 8,7:PLOT 11,3:PLOT 12,
3:PLOT 12,4:PLOT 11,9:PLOT 12,9
1110 PLOT 12,8:PLOT 10,5:PLOT 10,7:PL
OT 10,6:DRAWTO 12,6:PLOT 17,3:DRAWTO 14
,3:DRAWTO 14,5:PLOT 14,7:DRAWTO 14,9
1120 DRAWTO 17,9:PLOT 16,5:DRAWTO 18,5
:PLOT 16,7:DRAWTO 18,7
1130 COLOR 235:FOR X=1 TO 18:FOR Y=2 T
O 10:LOCATE X,Y,Z:IF Z=32 OR Z>72 THEN
PLOT X,Y
1140 NEXT Y:NEXT X:PLOT 19,6:PLOT 0,6:
COLOR 234:PLOT 18,6
1150 RETURN
1160 COLOR 235:FOR X=1 TO 18:FOR Y=2 T
O 10:PLOT X,Y:NEXT Y:NEXT X:COLOR 72:P
LOT 0,6:PLOT 19,6
1170 RETURN
1180 DATA 255,129,129,129,129,129,129,
255
1190 DATA 60,126,219,255,195,189,255,1
70
1200 DATA 60,126,219,255,153,195,102,6
0
1210 DATA 0,0,0,24,24,0,0,0
1220 DATA 145,82,20,120,27,156,42,65
1230 DATA 8,12,14,56,124,254,254,124

```

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## BOOK REVIEW

Rainy Day Activities for the Atari.

By Nancy Mayer. Published by Prentice-Hall. R.R.P. \$19.95

Reviewed by Michael Richardson. (Lithgow, N.S.W.)

I don't know any background information about Nancy Mayer but from the way this book is written, it is obvious that she must have some young children.

"Rainy Day Activities for the Atari" is suitable for any children between the ages of three and nine years. It contains over fifty programs, none being more than twenty lines long. These programs include games, letter games, word games, names, number games, designs, colours, music and free play. All of the games make use of the keyboard or joysticks except for one called "Paddle Play" which (of course) utilises paddles.

The book begins with a guide to parents which I found very helpful. It also has a HELP PAGE which lists some common problems and how to solve them. Some uncommon symbols are used in the program listings and so a Glossary of Symbols is included to explain the keystrokes necessary to display the symbol on the screen.

As pointed out in the book, the book is not intended to teach computer programming but rather, it aims at getting the kids to get some enjoyment from the computer.

Each program is set out over two or three pages. The first page gives the program listing along with variations which will make the program easier, harder, faster or slower as the user desires. The second/third page(s) is entitled "How It Works" and gives a description of how the program actually works along with a diagram that shows what the display screen should look like. Some of the games also include a games score sheet for record keeping.

I found that the kids really enjoyed this book, once they got their hands on it they were glued to the computer for ages -they found it highly entertaining.

I can recommend this book to any parent, it gives good value for money and its convenient loose leaf format makes it very easy to use.

## FOR SALE

DISK BASED PROGRAMS: \$15 each.

A.E., Space Shuttle, Zork I, Space Eggs, Mission Asteroid, Way Out, Bandits, Ulysses and the Golden Fleece, Soft Porn Adventure, Sneakers, Threshold. Also Software Automatic Mouth (SAM) for \$25.

All original with documentation.

Contact Paul Benjamin on (02)320-751 (Double Bay, N.S.W.).

\*\*\*\*\*

CASSETTE BASED PROGRAMS: \$15.00 each.

Apple Panic, Rear Guard, Road Racer, Filing Clerk, Space Invaders, Teacher's Pet, Vaults of Zurich, Bowling, Match Racer, Galaxians.

Contact David Deans on (049)43-7229 after 3 P.M. (Charlestown, N.S.W.).

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DISK BASED ADVENTURES: \$45.00 each.

Gruds in Space from Sirius.

The Institute from Screenplay.

These are very good, illustrated Adventures and include original packaging and instructions.

Contact Grant Robinson on (09)453-1253. Address:- 19 Coolabah Way, Forrestfield, Perth, Western Australia. 6058.

\*\*\*\*\*

CARTRIDGES: PacMan \$20.

Star Raiders with Video Touch Pad (to aid in playing) \$40.00.

Contact Ron Saras on (02) 750-0332 (Punchbowl, N.S.W.)

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# TinyText Word Processor

[Editor's Note: TINYTEXT is a cassette/disk based program with a relatively long history. Originally it was written by Stan Ockers to be published in the Eugene ACE Newsletter in November 1981, back in the days when word processors were very expensive. The intention back then was to save their editor some typing (here, here!!) but over the years TinyText has been utilised by many users and has grown into a much larger, more feature packed program than was ever intended. This is the fourth and latest version of TINYTEXT, each person having changed it to suit their needs. Read the documentation CAREFULLY to take advantage of it's features.)

TinyText has six options which you can step through using the OPTION key. These options are: -LOAD, SAVE, DISPLAY PRINT, EDIT and REPLACE. Press START to execute the currently displayed option.

## LOAD

This option allows you to retrieve a text file which was previously saved to disk or cassette. You will be prompted to enter a filename.

Cassette: Type 'C:' and the computer will beep the once to remind you to position the tape and press the cassettes play button. After this, hit RETURN and the text file will begin loading.

Disk: Type 'D:\filename.ext' and then hit RETURN. The text will load, being displayed on the screen as it loads. Only TinyText files can be loaded from disk.

**SAVE**

The SAVE option will save your text from memory to disk or cassette.

**Cassette:** Type 'C:' and the computer will beep twice. Position the tape and press the player's play and record buttons. After this, hit RETURN and the text file will be saved to tape.

Disk: Type 'D:filename.ext' and hit RETURN. The text will be saved to disk.

## EDIT

This option allows you to enter text or change previously entered text. To exit this option press the OPTION key -if this doesn't work you've probably forgotten to press the RETURN key after entering or editing text.

**17648 FREE**

INSERT TEXT OR  
PRESS SELECT TO EDIT

```
. . . . .
```

```
. . . . .
```

```
. . . . .
```

```
. . . . . The qu
```

```
ick brown fox jumped over the lazy dog!
```

Text is entered on this line

.....

Entering Text: When you enter the EDIT mode you'll be presented with the number of free bytes in memory and a screen full of dots. At the centre of the screen there is a blank area (text window) -any text entries or editing will be carried out in this window. You can type up to three lines of text into this window using all of the usual screen editing features of the Atari. Pressing RETURN will add the text from the text window to any previously entered text.

TinyText allows you to format text for print or display with centred lines, paragraph indentation and blank lines. Special formatting control characters are used to do this and may be inserted during the EDIT mode. These characters are used to end the current line of text and to specify the format for the NEXT line of text. Just press the CTRL key along with one of the following mnemonic letters:-

**C** New line with text centered in that line.

**E** End current line and start a new one.

**I** Start and indent a new line.

**P** Form feed to the head of a new page.

**S** Skip. Leaves one blank line.

**T** Start a new line at the TAB setting.

Editing Text: This is a more unusual feature of TinyText. Plug a joystick into port 1 -you can now scroll your text up, down, left or right, around the text window. Splitting your text across the window will allow you to insert as much text as you like, at the point where the text has been split, just by typing whatever you want, pressing RETURN after every three lines.

Alternately, using the joystick, you can position any line you wish to edit to the bottom of the text window and then press SELECT. The positioned line will move up into the text window ready for editing. Once again, you can use any of the Atari's normal screen editing features to edit the line. When finished typing hit RETURN. To jump to the end of text just hit the joystick trigger.

## PRINT/DISPLAY

These options format your text as per the control codes which have been inserted into the text. The print option gives you hard copy using your printer whilst the display option formats your text to the screen using two lines to represent 80 columns. When either of these modes are entered you will be presented with the following screen:-

## SET FORMAT CONTROLS

LINE SIZE	LEFT MARG	IN- DENT	TAB STOP	PAGE SIZE	FORM FEED
2 70.	5.	5.	49.	66.	6

These are default values for page formatting your text, just hit RETURN to accept the default values or move the cursor to, and adjust the values you wish to change.

**Line Size:** This is the number of characters which TinyText will print on one line. This figure, when added to the left margin figure, should not exceed the number of columns your printer is set for (i.e. 80 or 132 columns).

Left Margin: The number of print positions (columns) which will be left blank before your text is printed.  
Indent: Usually used at the start of a paragraph. This is the number of blank spaces which can be inserted between the left margin and the text.

Tab Stop: This is similar to indenting but is generally used to indent or columnate a list within a document.

Page Size: The number of lines on a page.

Form Feed: Used for roll or fan-fold paper. This is the number of lines need to be printed in order to separate the bottom of one page from the top of the next page.

With the print option you will be asked if you want to pause at the end of each page. This makes life easier if you want to use single-sheet paper rather than roll or fan-fold paper. The restart is screen-prompted.

## REPLACE

In this mode TinyText searches for special codes which were embedded in the text during editing. It then "translates" these codes into the appropriate words and phrases automatically. This process takes quite a bit of time to operate so you will be alerted by a "bell" when the job's complete.

This option was added by Bill Hardwick of England to cater for his needs as an entomologist -hence the names and phrases contained in the DATA statements starting at line 1180. Using this option will require you to change these DATA statements to suit your own needs but it could save you a lot of time at the keyboard.

Replacement is provided in two forms by the REPLACE option, numeric and alphabetic codes.

### EDIT MODE ADDITIONAL INSTRUCTIONS

All the work you have to do for automatic replacement of the code values is done in EDIT mode. Both types of code are identified to the program by typing the code in inverse video using the ATARI key. The two types of code can be mixed freely and there is no need to come out of inverse video simply to put spaces, punctuation or "special characters" (i.e. !"#%&'@()<>-=;:~.,/[?]) between successive replacement codes. All such characters the program encounters in their inverse video form will simply be translated to their normal form by the REPLACE option -this reduces the number of key-strokes necessary to achieve the desired result.

Alphabetic Codes: The 26 DATA items starting at line 1180 are each associated with successive letters of the alphabet. This gives you an opportunity to select easily remembered mnemonics for many items, which are quickly learned and help to increase your typing speed.

As a further option the code letter may be entered in either lower or upper case inverse video. If it is in upper case and the replacement value starts with a letter, then the first letter of the first word of the replacement string will also appear in upper case -this is for convenient incorporation of replacement codes at the start of a sentence.

Numeric Codes: The values starting at line 1220 are each associated with a successive number, starting at 1, in inverse video. All the same remarks apply to these as to alphabetic codes with two exceptions:-

(a) There is no corresponding "upper case" feature

(b) consecutive numeric replacement codes must be separated from each other by some other character. Failing this, the program will assume that a triplet of three inverse video numeric characters is a single replacement code and act accordingly.

### TAILORING THE PROGRAM TO YOUR OWN REQUIREMENTS

As listed the program contains replacement codes tailored to Bill Hardwick's needs. Unless you happen to be interested in wild-life recording and resident in Cheshire this is unlikely to be of much benefit to you! Fortunately, it is very easy to alter the program to give your own bespoke version which you can then save for future use. Remember to either type CLR or temporarily alter the DIM of L\$ to say FRE(0)-500 and reinstate it after you have done your other changes. If you forget to do this you will probably get ERROR 2 when editing the program.

To change the two types of replacement codes you must follow these simple rules:

Codes starting at line 1180: there must be exactly 26 replacement strings here and the total length of all these string literals must not exceed (255-26)=229 characters. Otherwise change them to whatever you wish.

Codes starting at line 1220: The total number of replacement strings given here must not exceed the DIMENSION of LP\$. Also, the total length of these strings must not exceed the DIMENSION of L\$.

As coded the program allows for 100 replacement codes whose total length should not exceed 1500 characters -this allows quite a bit of "slack" for expansion later without redimensioning. If you wish to vary these limits, change line 20 appropriately - the rest of the program will take care of itself. Note that there is an absolute limit of 999 codes of this type in-built into the program logic in line 1500, though this too could easily be changed by altering the FOR-NEXT loop to FOR K=0 TO 3. As a guide, the program as written gives a text buffer of 18 Kbytes on a 48K machine with DOS.

### Extra formatting commands

Apart from the previously mentioned commands, there are also others which are a little more difficult to understand. I can only suggest that you experiment with them:-

F Sets fill justify mode.

G Sets line length ("!" terminates sequence).

H Direct printer commands follow this ("!" terminates sequence).

L Sets left justify mode.

M Sets left margin (default).

R Sets right justify mode.

Being able to reset the margins from within the text means that you can easily place the return address in a letter, offset a quote in an essay, etc. Embedding printer commands allows you to



(depending on the printer) set the line spacing, form feed and form length, to underline single words, use superscripts, subscripts, change fonts, etc.

Using CONTROL H, you can send escape control codes direct to the printer. To produce the "ESC" character (which printers use to identify their instructions) just hit the "ESC" key twice. This will make room for two more codes, so if you only want to enter a single byte control code, pad out the extra byte with a null code (CONTROL comma).

As you will have noticed, some of the commands are delimited using the exclamation mark. First type the control character you wish to use, type the string or values you wish to pass and then end the sequence with "!" e.g.

CTRL M20!

This will set the left margin to 20, halfway through the text.

GOOD LUCK!!!

```

0 REM #####
1 REM # TINY TEXT MARK II #
2 REM # original program by #
3 REM # by Stan Ockers & Jim Carr #
4 REM # modified by Bill Hardwick #
5 REM # Eugene A.C.E. Newsletter #
6 REM # December 1983 #
7 REM # Reprinted by A.C.E. (N.S.W.) #
8 REM # August 1984 #
9 REM #####
10 CLR :POKE 8,0:GRAPHICS 0:POKE 712,1
48:POKE 752,1:? CHR$(125):DIM PL$(1),S
P$(40):FOR I=1 TO 40:SP$(I,I)="" :NEXT
I
20 DIM F$(2),C$(50),L$(1500),LP$(100),
D$(256)
30 DIM S$(45),I$(120),A$(128):SIZ=FRE(
0)-50:DIM T$(SIZ):FOR I=1 TO 45:READ A
:S$(I)=CHR$(A):NEXT I
40 DATA 104,104,133,204,104,133,203,10
4,133,206,104,133,205,104,104,168,162,
0,161,203,145,203,198,203,165
50 DATA 203,201,255,208,2,198,204,165,
203,197,205,208,236,165,204,197,206,20
8,230,96
60 FOR I=1536 TO 1655:READ A:POKE I,A:
NEXT I
70 DATA 104,104,133,204,104,133,203,10
4,133,206,104,133,205,162,0,169,240,32
,53,6,169,40,32,103,6
80 DATA 165,207,208,8,169,160,32,103,6
,24,144,10,169,40,32,53,6,169,120,32,1
03,6,169,240,32,53,6,96
90 DATA 133,208,161,203,41,128,168,161
,203,41,127
100 DATA 201,96,176,11,201,32,176,5,24
,105,64,208,2,233,32,129,205,152,1,205
,129,205,230,203,208,2
110 DATA 230,204,230,205,208,2,230,206
,198,208,208,209,96,133,208,169,0,129,
205,230,205,208,2
120 DATA 230,206,198,208,208,244,96
130 P=241:POKE 207,0:POKE 82,0:OPEN #2
,4,0,"E":T$(1)=".":T$(480)=".":T$(2)=
T$
140 SCR=PEEK(88)+256*PEEK(89)+120:LL=7
0:LM=5:IND=5:TAB=49:PS=66:FF=6:GOTO 11
30
150 ? " INSERT TEXT OR ... PRESS selec
t TO EDIT":P=LEN(T$)-240
160 POKE 702,0:POKE 752,0
170 POSITION 0,0:? SIZ=LEN(T$):" FREE"
:S=STICK(0):IF S=15 THEN 220
180 IF S=14 AND P<LEN(T$)-320 THEN P=P
+40
190 IF S=13 AND P>280 THEN P=P-40:FLAG
=1
200 IF S=11 AND P<LEN(T$)-280 THEN P=P
+1
210 IF S=7 AND P>241 THEN P=P-1
220 A=USR(1536,ADR(T$)+P-241,SCR)
230 K=0
240 POKE 53279,8:PK=PEEK(53279):IF PK=
5 THEN GOSUB 1010
250 IF PK=3 THEN 410
260 IF PEEK(764)<255 THEN 300
270 K=K+1:IF K<10 THEN 240
280 IF STRIG(0)=0 THEN P=LEN(T$)-240:P
OKE 207,0:FLAG=0
290 GOTO 170
300 POSITION 0,10:INPUT #2,I$:PK=PEEK(
207):IF PK=0 THEN A$=""
305 IF NOT FLAG THEN I$(LEN(I$)+1)=""
"
310 LI=LEN(I$):LT=LEN(T$):FLAG=0:IF LI
=0 THEN 380
320 IF LI+LT>SIZ THEN POSITION 0,1:? "
OUT OF SPACE":GOTO 170
330 IF PK=1 THEN A$=T$(P,P+39):IF T$(P
+39,P+39)="" THEN I$(LI+1)="" :LI=LI+
1
340 LA=LEN(A$):AD=ADR(T$):IF LI>LA THE
N A=USR(ADR(S$),AD+LT-1,AD+P-2,LI-LA)
350 T$(P,P+LI-1)=I$
360 IF LA<LI THEN T$(P+LI)=T$(P+LA)
370 P=P+LI:T$(LT+LI-LA+1)="" :POKE 207,
0:GOTO 170
380 IF PEEK(207)=1 THEN 400
390 IF P<LEN(T$)-279 THEN T$(P)=T$(P+4
0)
400 POKE 764,255:GOTO 170
410 TRAP 1040:ST=PEEK(560)+PEEK(561)*2
56+4:POKE ST-1,70:POKE ST+2,7:POKE ST+
3,112:POKE ST+4,6:POKE ST+5,6
420 POKE ST+24,65:POKE 712,148
430 POKE ST+25,PEEK(560):POKE ST+26,PE
EK(561)
440 POKE 711,90:OP=OP+1:IF OP=7 THEN 0
P=1
450 POKE 752,1:? CHR$(125):POSITION 20
,0:IF OP=1 THEN ? "load "
460 IF OP=2 THEN ? "edit"
470 IF OP=3 THEN ? "print"
480 IF OP=4 THEN ? "save"
490 IF OP=5 THEN ? "display"
500 IF OP=6 THEN ? "replace"
510 POSITION 0,1:? "PRESS start TO BEG
IN option TO ALTER MODE"
520 FOR D=1 TO 30:NEXT D
530 POKE 53279,8:IF PEEK(53279)=3 THEN
440
540 IF PEEK(53279)<>6 THEN 530
550 POKE 764,255:POSITION 20,1:? CHR$(
125):POSITION 0,1:ON OP GOTO 1090,150,
560,1050,560,1310
560 FOR I=1 TO 6:? CHR$(127):NEXT I:?
:FOR I=1 TO 6:? " :NEXT I:? "
"
570 POSITION 0,1:? "SET FORMAT CONTROL
S":POSITION 0,6:? "LINE LEFT IN-
TAB PAGE FORM":POSITION 0,7
580 POKE 752,0
590 F$="," :F$(2)=CHR$(127):? "SIZE NA
RG DENT STOP SIZE FEED":? "
":LL:F$:LM:F$:IND:F$:TAB:F$:PS:F$:FF
600 POSITION 0,8:INPUT LL,LM,IND,TAB,P
8,FF:P=240
610 POKE 702,64:IF OP=5 THEN 630
620 ? "DO YOU WANT TO PAUSE AT END OF
EACH PAGE (Y/N)":INPUT PL$:IF PL$(
)>"Y" AND PL$(1)<"N" THEN 620
630 LINE=0:GRAPHICS 0:POKE 712,148:POS
ITION 0,3:FL=0:POKE 752,1:? CHR$(125)
640 RL=LL:TP=P:B=ASC(T$(TP,TP))
650 RL=LL-IND*(B-9)-TAB*(B-20)
660 IF B=19 AND OP=3 AND LINE<=(PS-FF)
THEN LPRINT " :LINE=LINE+1
670 IF B=19 AND OP=5 THEN ?
680 IF B=16 AND OP=3 THEN FOR I=1 TO P
S-LINE:LPRINT " :NEXT I:LINE=0:GOSUB
980
690 IF B=16 AND OP=5 THEN ? :? :? :LIN
E=0
700 C=0:K=0
710 K=K+1:TP=TP+1:IF K=RL+1 THEN 760
720 IF TP>LEN(T$)-241 THEN FL=1:GOTO 8
80
730 A=ASC(T$(TP,TP)):IF A<32 THEN C=0:
GOTO 810
740 IF A=32 THEN C=C+1

```



```

750 GOTO 710
760 IF C=0 THEN A$=T$(P+1,TP-1):TP=TP-1:GOTO 880
770 IF T$(TP,TP)=" " THEN A$=T$(P+1,TP-1):GOTO 880
780 IF T$(TP-1,TP-1)=" " THEN C=C-1
790 K=1
800 TP=TP-1:IF T$(TP,TP)<>" " THEN K=K+1:GOTO 800
810 IF TP=P+1 THEN P=TP:GOTO 640
820 A$="":I=P+1
830 A$(LEN(A$)+1)=T$(I,I):IF T$(I,I)<>" " THEN 870
840 IF C>1 THEN A=INT(K/C+RND(0)):IF A>0 THEN FOR J=1 TO A:A$(LEN(A$)+1)=" " :NEXT J:K=K-A
850 C=C-1
860 IF C=1 AND K>0 THEN FOR J=1 TO K:A$(LEN(A$)+1)=" " :NEXT J
870 I=I+1:IF I<TP THEN 830
880 POKE 77,0:IF FL THEN A$=T$(P+1,TP-1)
890 IF OP=3 THEN LINE=LINE+1:IF LINE>(PS-FF) THEN LINE=1:FOR I=1 TO FF:LPRINT " " :NEXT I:IF PL$="Y" THEN GOSUB 980
900 SP=LM+(B=9)*IND+(B=20)*TAB+(B=3)*(LL-LEN(A$))/2:IF SP>40 THEN SP=40
910 IF OP=3 THEN LPRINT SP$(1,SP);A$
920 IF OP=5 THEN ? SP$(1,SP);A$
930 POKE 53279,8
940 IF FL THEN ? :? "          END OF PRESENT TEXT.          PRESS STAR 7 TO CONTINUE."
950 IF FL THEN IF PEEK(53279)<>6 THEN 950
960 IF FL THEN 410
970 P=TP:GOTO 640
980 POKE 53279,8: ? "PAPER OUT : START WHEN READY"
990 IF PEEK(53279)=6 THEN GRAPHICS 0:POKE 712,148:RETURN
1000 GOTO 990
1010 PK=PEEK(207):IF PK=1 THEN POKE 207,0:GOTO 1030
1020 IF PK=0 AND P<LEN(T$)-279 THEN POKE 207,1
1030 A=USR(1536,ADR(T$)+P-241,SCR):FOR D=1 TO 50:NEXT D:RETURN
1040 ? "ERROR " ;PEEK(195); " AT " ;256+PEEK(187)+PEEK(186):GOSUB 1570:GOTO 410
1050 POKE 702,64
1060 ? " ENTER FILE-NAME " ;:INPUT I$:OPEN #3,B,0,I$:N=INT(LEN(T$)/128):? #3,N:IF N=0 THEN ST=0:GOTO 1080
1070 FOR I=1 TO N:ST=128*I: ? #3,T$(ST-127,ST):NEXT I
1080 ? #3,T$(ST+1,LEN(T$)):CLOSE #3:GOTO 410
1090 POKE 702,64
1100 CLOSE #3: ? " ENTER FILE-NAME " ;:INPUT I$:OPEN #3,A,0,I$:INPUT #3,N:IF N=0 THEN BEG=-127:GOTO 1120
1110 GRAPHICS 0:POKE 712,148:FOR I=1 TO N:BEG=128*I-127:INPUT #3,A$: ? A$;T$(BEG)=A$:NEXT I
1120 INPUT #3,A$:T$(BEG+128)=A$:CLOSE #3:POKE 1536,104:GOTO 410
1130 LP$(1)=CHR$(0):LP$(100)=LP$(1):LP$(2)=LP$(1):L$="":TRAP 1150:RESTORE 1220:POKE 712,148:POKE 752,1: ? CHR$(125)
1140 FOR I=1 TO 100:READ C$:LP$(I)=CHR$(LEN(C$)):L$(LEN(L$)+1)=C$:NEXT I
1150 LTOP=I-1:PK=PEEK(195):IF PK<>0 THEN POP
1160 TRAP 1040:IF PK<>0 AND PK<>6 THEN 1040
1170 GOSUB 1210:GOTO 410
1180 DATA abundant,bred from,common,distributed,exceedingly,fairly,usually,scarce,infrequent,one only
1190 DATA (confirmation required),locally,most years,not,occasionally,pupae,quite,rare,sometimes,at light
1200 DATA uncommon,very,widely,most recent record,larvae,(dubious record)
1210 RESTORE 1180:FOR I=1 TO 26:READ C$:D$(LEN(D$)+1)=CHR$(LEN(D$)+LEN(C$)+2):D$(LEN(D$)+1)=C$:NEXT I:RETURN
1220 DATA Warburton's Wood,Whitegate Way,Pettypool Wood,Winsford,Delamere Forest,Winsford (A54)
1230 DATA Hogshead Wood,Little Budworth Common,Lea Green,Vale Royal Cut (Winsford),Christchurch (Dorset)
1240 DATA New Forest (South Hampshire),Bournemouth (Dorset),Sherborne (Dorset),Beaumont (near Windsor)
1250 DATA Newchurch Common,Rossett (Clwyd),Runcorn,Foraby (Lancs.),Kennel Woods,Darnall Woods,Compton
1260 DATA Rookery Pool,Dutton,Dungeness (Kent),Crews,Cat's Clough,Moreton (Wirral),Hawkstone (Salop.)
1270 DATA Marford (Clwyd)
1280 DATA Wharton Heath,Whixall Moss (Salop.),Alderley Edge,Portslade (Sussex),Streatley (Berks.)
1290 DATA Bromley (Kent),Sherrat's Rough,Dutton Hollows,Arthog (Gwynedd),Spital Dam (Wirral),Weaverham
1300 DATA Risley Moss,Widnes,Solihull (Warwicks.)
1310 POKE 559,0:IF LEN(T$)=SIZ THEN GOSUB 1580: ? "OUT OF SPACE":GOTO 410
1320 XT=LEN(T$):T$(XT+1)=" " :T$(SIZ)=" " :T$(XT+2)=T$(XT+1)
1330 J=SIZ+1:FOR I=XT TO 1 STEP -1:J=J-1:T$(J,J)=T$(I,I):NEXT I:IF ERR=0
1340 A=ASC(T$(J,J)):IF A>127 THEN 1400
1350 T$(I,I)=T$(J,J):I=I+1
1360 J=J+1:IF J<SIZ THEN 1340
1370 IF PEEK(559)=0 THEN GOSUB 1580
1380 IF ERR>0 THEN ? ERR;" ERRORS IN REPLACEMENT CODES":GOSUB 1570
1390 T$(I)=" " : ? CHR$(253):GOTO 410
1400 IF (A>158 AND A<176) OR (A>185 AND A<193) OR (A>218 AND A<224) THEN T$(I,I)=CHR$(A-128):I=I+1:GOTO 1360
1410 IF A>175 AND A<186 THEN 1500
1420 IF (A>192 AND A<219) OR (A>224 AND A<251) THEN 1440
1430 ERR=ERR+1:GOTO 1350
1440 LC=32:IF A>223 THEN A=A-LC:LC=0
1450 K=1:FOR A=A-192 TO 1 STEP -1:L=K:K=ASC(D$(K,K)):NEXT A
1460 C$=D$(L+1,K-1):IF LEN(C$)+I>J THEN GOSUB 1580: ? "OUT OF SPACE":GOSUB 1570:GOTO 1490
1470 IF ASC(C$(1,1))<97 THEN LC=0
1480 C$(1,1)=CHR$(ASC(C$(1,1))-LC):T$(I,I+LEN(C$)-1)=C$:I=I+LEN(C$):GOTO 1360
1490 FOR J=J TO SIZ:T$(I,I)=T$(J,J):I=I+1:NEXT J:GOTO 1370
1500 C$="":FOR K=0 TO 2:IF ASC(T$(J+K,J+K))<176 OR ASC(T$(J+K,J+K))>185 THEN POP :GOTO 1520
1510 C$(LEN(C$)+1)=CHR$(ASC(T$(J+K,J+K))-128):NEXT K
1520 TRAP 1530:LOC=VAL(C$):IF LOC>=1 AND LOC<=LTOP THEN 1540
1530 TRAP 1040:GOTO 1430
1540 TRAP 1040:L=0:FOR D=1 TO LOC:K=L+1:L=K+ASC(LP$(D,D))-1:NEXT D
1550 C$=L$(K,L):IF LEN(C$)+I>J THEN GOSUB 1580: ? "OUT OF SPACE":GOSUB 1550:GOTO 1490
1560 J=J-1+LEN(STR$(LOC)):T$(I,I+LEN(C$)-1)=C$:I=I+LEN(C$):GOTO 1360
1570 ? "PRESS RETURN TO CONTINUE":INPUT I$:RETURN
1580 POKE 559,32:GRAPHICS 0:POKE 712,148:RETURN

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# Graphs 2

by Bao Quy Nguyen Phuoc. (Tempe, N.S.W.)

[Editor's Note: After having run the Educational Software Competition we received a lot of requests to print the winning programs in the pages of Inside Info, unfortunately, for various reasons this program is the only winning entry we are able to print.

Bao Quy won the \$50 second prize with this GRAPHS4 program -an excellent entry and a worthy effort. The program given here has been altered by me to make it shorter in length and a little easier to use. The resultant graphs from this program are depicted throughout this issue of Inside Info.

I wish I'd had something like this when I was at school!!

Graphs Version 4 is a BASIC program which will allow you to check up to three functions  $y=f(x)$ , even trigonometrical ones, and is suitable for high school students, year 10 and up.

When RUN the instructions will be displayed and you will be prompted to enter the number of functions (1-3) you would like to check.

The next screen asks you to enter each function, one at a time. When entering your function you can use 'PI' for the value 3.14159265. If you wish to use the function which has already been entered (displayed on the bottom of the screen) just hit RETURN.

The program as listed contains three functions  $Y=\sin(X)$ ,  $Y=\text{ABS}(X-1)$  and  $Y=X^2/4$ . These functions appear in lines 50, 51 and 52 and will be overwritten each time you enter a new function. This occurs because the program utilises the Ataris 'FORCED READ' mode (POKE 842,13) -so SAVE the program before you RUN it, otherwise you'll overwrite these sample functions.

In entering your functions, enter them as executable BASIC code -i.e. upper case letters with brackets where required. e.g.

$y=\sin x$  should read  $Y=\sin(X)$

If you fail to do this, you'll get a function error and be asked to re-enter your function.

It is an observation of mine that using multiplication will give you faster results than raising a number to a power. e.g.

$X \times X$  executes faster than  $X^2$ .

The user is able to examine, by enlarging or distorting, any section of the graph by simply

redefining the origin and axes unit lengths.

After entering your functions you will be asked to input the co-ordinate values for the origin -just keep hitting RETURN to accept the default values which will place the origin at the centre of the screen. Since the program uses GRAPHICS 8 it can plot to each pixel on the screen. Hence, possible values for the X co-ordinate are in the range 0-319 going from left to right. Y values range from 0-191 going from the top to the bottom of the screen.

Next, enter the unit lengths to be used along the X and Y axes -the default is 10 units, just hit RETURN. Any entered values will be converted to integers and if less than 2 will not be accepted. If a value of one were accepted, every pixel along the axes would be on and there would be virtually no divisions.

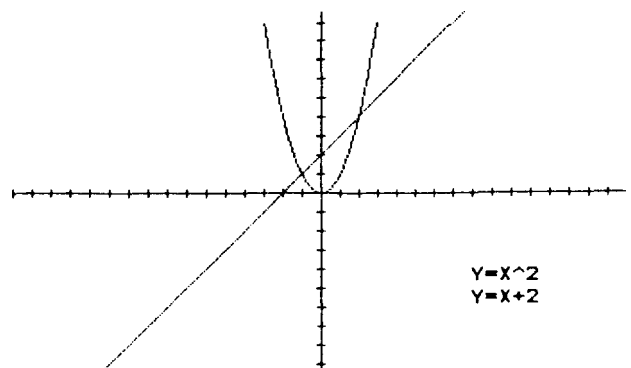
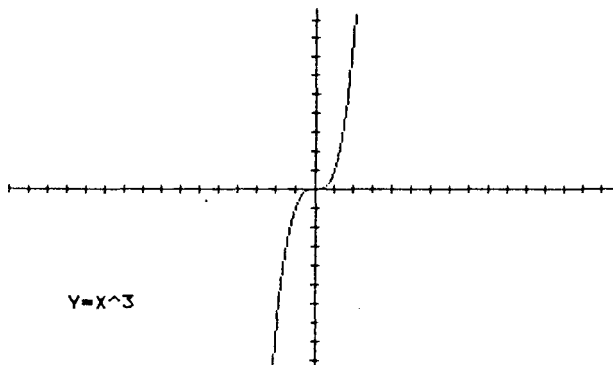
Graphs4 will pick up any discontinuity in a function which will be seen as a 'hole' on the graph plot. e.g.

$$Y=(X-1)*(X+1)/(X-1)$$

This will be seen to be discontinuous at  $x=1$ .

Once the graphs are fully plotted press SELECT to redefine the origin and axes unit lengths or START to redefine functions. If pressing these buttons does nothing then the program is still plotting your functions, but out of range. If you get impatient hit BREAK then type GOTO 90. You can then hit SELECT or START.

**PLEASE NOTE:** This program should only be used as a tool for CHECKING your answers, not as a means of obtaining them!!



```

1 REM #####
2 REM #   GRAPHS VERSION 2   #
3 REM #   by Bao Quy Nguyen Phuoc   #
4 REM #   Published by Atari Computer   #
5 REM #   Enthusiasts (N.G.W.)   #
6 REM #   August 1984   #
7 REM #####
10 GOTO 520
20 REM DRAW FUNCTION ROUTINE
30 POKE 709,14:GOSUB 130:FOR N=0 TO B-
1:XL=-X1/XL-1/XL
40 FOR X=X+1/XL TO (320-X1)/XL STEP 1/
XL:TRAP 70
50 IF N=0 THEN Y=SIN(X)
51 IF N=1 THEN Y=ABS(X-1)
52 IF N=2 THEN Y=X*X/4
60 IF FLAG THEN RETURN
70 TRAP 80:PLOT X1+X*XL,Y1-Y*YL:DRAWTO
X1+X*XL,Y1-Y*YL
80 NEXT X:NEXT N
90 POKE 764,255:IF PEEK(53279)=5 THEN
410
100 IF PEEK(53279)=6 THEN GRAPHICS 0:G
OTO 200
110 GOTO 90
120 REM DRAW AXIS AND UNIT LENGTHS
130 GRAPHICS 24:C=(RND(0)*6)*2+2:SETCO
LOR 2,C,2:SETCOLOR 4,C,2:COLOR 1
140 PLOT X1,0:DRAWTO X1,191:PLOT 0,Y1:
DRAWTO 319,Y1:FOR X=-INT(X1/XL) TO INT
((320-X1)/XL)
150 TRAP 160:PLOT X1+X*XL,Y1-2:DRAWTO
X1+X*XL,Y1:PLOT X1+X*XL,Y1:DRAWTO X1+X
*XL,Y1+2
160 NEXT X:FOR X=-INT((192-Y1)/YL) TO
INT(Y1/YL)
170 TRAP 180:PLOT X1,Y1-X*YL:DRAWTO X1
+2,Y1-X*YL:PLOT X1-2,Y1-X*YL:DRAWTO X1
,Y1-X*YL
180 NEXT X:RETURN
190 REM DEFINE FUNCTION
200 CLOSE #1:OPEN #1,4,0,"K:"
210 TRAP 210:POKE 764,255:POSITION 2,2
0:?"HOW MANY FUNCTIONS? ";
220 GET #1,B:IF B<49 OR B>51 THEN 220
230 B$=CHR$(B):B=VAL(B$):FOR N=0 TO B-
1:IF N=0 THEN N$="FIRST"
240 IF N=1 THEN N$="SECOND"
250 IF N=2 THEN N$="THIRD"
260 ? CHR$(125):POKE 709,10:POSITION 2
,18:?"PRESS RETURN TO USE CURRENT FUN
CTION":LIST 50+M
270 FOR I=0 TO Z:POSITION 2,20:?"CHR$(
254):NEXT I:Z=14:POKE 764,255:L=0
280 TRAP 280:POSITION 2,1:?"USE 'PI'
FOR 3.14159265":A$="":?"ENTER YOUR
";N$;" FUNCTION ":"?"?"Y=";
290 GET #1,A:IF A>39 AND A<58 AND L<30
OR A=94 AND L<30 THEN ? CHR$(A):L=L+
1:A$(L)=CHR$(A)
300 IF A>64 AND A<89 AND L<30 THEN ? C
HR$(A):L=L+1:A$(L)=CHR$(A):GOTO 290
310 IF A=126 THEN ? CHR$(A):A$(L)="":
L=L-1:GOTO 290
320 IF A<155 THEN 290
330 IF NOT L THEN 390
340 REM FORCE READING
350 POKE 709,4:?"CHR$(125)
360 ? :?"?"?"50+N;" IF N="N;" THEN
Y="A:?"?"?"CONT"
370 POSITION 2,0:POKE 842,13:STOP
380 POKE 842,12
390 TRAP 400:FLAG=1:GOSUB 50+N:FLAG=0:
NEXT N:GOTO 410
400 ? CHR$(125):POKE 709,10:?" FU
NCTION ERROR.TRY AGAIN":?"CHR$(253):
FOR I=1 TO 300:NEXT I:Z=22:GOTO 260
410 ? CHR$(125):POKE 709,42:?"PLEASE
ENTER:"?"?"?"?"ORIGIN"
420 TRAP 420:POSITION 2,6:?"X CO-ORD
INATE .... 160 "?"Left=0 Right=31
9:POSITION 23,6:GOSUB 500:X1=YL
430 IF X1<0 OR X1>319 THEN 420
440 TRAP 440:POSITION 2,9:?"Y CO-ORD
INATE .... 96 "?"Top=0 Bottom=19
1:POSITION 23,9:GOSUB 500:Y1=YL
450 IF Y1<0 OR Y1>191 THEN 440
460 ? :?"?"?"?"LENGTH OF UNITS ON AX
ES"
470 TRAP 470:POSITION 2,15:?"X AXIS
.... 10:POSITION 15,15:GOSUB 500:XL=
YL:IF XL<2 THEN 470
480 TRAP 480:POSITION 2,17:?"Y AXIS
.... 10:POSITION 15,17:GOSUB 500:IF
YL<2 THEN 480
490 GOTO 30
500 INPUT YL:YL=INT(YL):RETURN
510 REM INSTRUCTIONS
520 CLR I:Z=14:PI=3.14159265:DIM A$(30)
,B$(1),N$(6)
530 GRAPHICS 0:POSITION 12,0:?"GRAPH
S VERSION 2":?"THIS PROGRAM WILL P
LOT UP TO THREE"
540 ? "FUNCTIONS f(x) AT ONCE":POSITIO
N 2,10:?"WHEN A GRAPH IS COMPLETED PR
ESS:"
550 ? :?"SELECT TO REDEFINE ORIGIN AN
D LENGTHS":?"?"START TO BEGIN AGAIN"
:GOTO 200

```

## NOTICES

The voting for the best author/article from issues 7 to 12 of Inside Info was held at our July meeting. Unfortunately, the committee did not feel that there were enough votes recorded to warrant awarding the \$100 prizemoney. It has therefore been decided to put the vote back to the November meeting which is the Club's Annual General Meeting. To help you make your decision, the October issue of Inside Info will contain a list of all the articles/authors which are eligible for the prizemoney. Please show your support by voting, either by mail or by being there.

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A number of articles I promised for this issue have not appeared because of lack of time and space. I'll try and get them ready for the next issue and hopefully catch up on Odds and Sods.

\*\*\*\*\*

Since I became "temporary" editor of Inside Info

I've had very little time to myself and more recently, almost no time for anything else. Future issues will have articles which have been edited by others as well as myself. If you would like to help out with this please let me know. It would be preferable if you had a modem so that there will be no problem sending articles and programs to each other. Duties would include checking, condensing and debugging programs as well as checking the english and accuracy of any articles.

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There are a few new titles available from the software exchange. Check the information sheet (page 2) for details.

\*\*\*\*\*

The Annual General Meeting will be held on 5th November. Voting will take place to fill all of the Club's Committee positions. Please consider taking up a position yourself and show your support by being there.